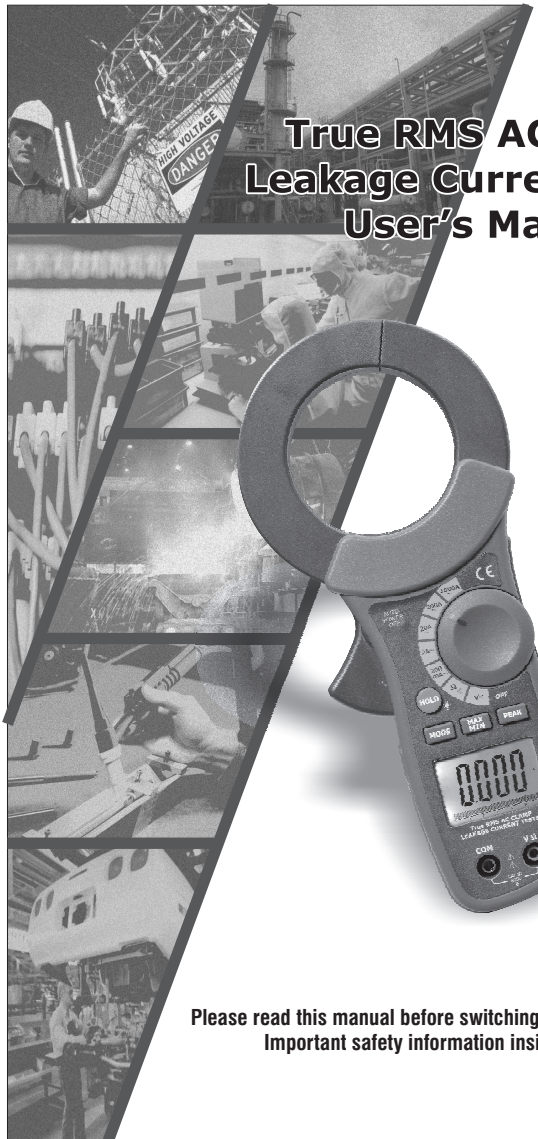

True RMS AC Clamp Leakage Current Tester User's Manual

Please read this manual before switching the unit on.
Important safety information inside.

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1.Features

- Accurate AC digital clamp meter for leakage current measurement.
- 100UA high resolution on 200mA range.
- Shield transformer jaws to minimizs the effect of external stray magnetic field.
- Large jaw with 68 mm diameter.
- Five Ranges (200mA, 2A, 20A, 200A, 1000A) for all application.
- A filter circuit is designed to eliminate the effect of high frequency noise and harmonics by setting the frequency selector switch at the 50/60 Hz position for AC current measurement.
- Large 3 1/2 digits LCD
- Fast bargraph display (20 times/sec.)for transient observation.
- Continuity measurements.
- Max/Min and Data Hold functions.
- Peak Value Measurement.
- 600V overload protection for DC/ACV, ohm range measurement.
- Easy single rotary switch for any function selection.

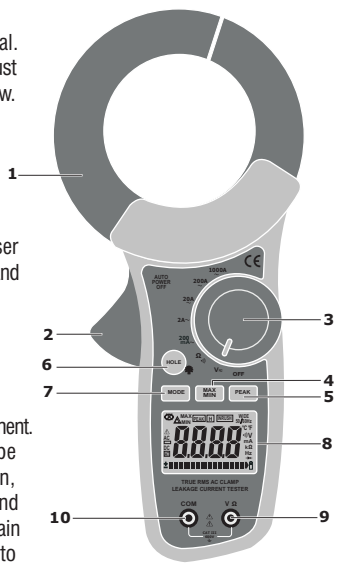
2.Panel Description

1.Transformer Jaw
This is used to pick up current signal. To measure AC current, conductor must be enclosed by the 68 mm diameter jaw.

2.Transformer Trigger
This is used to open the jaw.

3.Function Selector Switch
This is used to select the function user desired, such as AC/DCV ,ACA, ohm and continuity.

4. Max/Min Hold Button
This button is used to enable the maximum or minimum value to be displayed and updated during measurement. Press once, minimum value shall be displayed and updated. press again, maximum value shall be displayed and updated. Press & hold the button again (the third push),clamp meter return to normal measurement mode.



5. Peak hold Button
This button is used to enable the Peak value to be displayed and updated during measurement. Press again clamp meter return to normal measurement mode.

6 .Data Hold &Backlit Button
once this button is pushed,reading shall be held on the LCD. Press again to release it. Press & hold the button 2 Sec. release backlight is on, again press & hold the button 2 Sec. release backlight is off.

7.Mode Button

- Use ACA leakage current detection by measuring current 50/60Hz and 40~1000kHz response of choice.
- Press the button to Select ACV or DCV measuring function.

8.LCD

This is a 3 3/4 digit liquid crystal display with maximum indication off 6000. Function symbols, units, bargraph, sign, decimal points, low battery symbols, Peak & Max/Min symbols symbol are included.

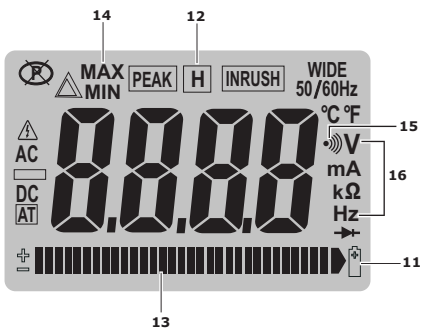
9.V Ωinput Terminal

This terminal is used as input for voltage or ohm/continuity measurements.

10.COM Terminal

This terminal is used as common reference input.

LCD Description:



11.Low Battery Symbol

When this symbol appears, it means the battery voltage drops below the minimum required voltage. Refer to Section V for battery replacement.

12. Data Hold Symbol
Once the hold button is pressed, this symbol appears on LCD.

13.Bargraph
Bargraph has forty segments. It displays segments proportional to the actual reading. Each segment represent one count.

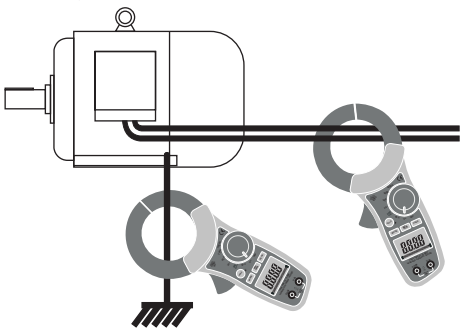
14. Max/Min Hold symbol
Once the Max/Min button is pressed, either MAX or MIN shall be displayed on LCD.

15.Continuity Symbol
If ohm and continuity function is selected, this symbol shall appears on LC.

16.Units symbols
Once a function is selected, corresponding unit (V,Ω,A,or Hz) shall be displayed on LCD.

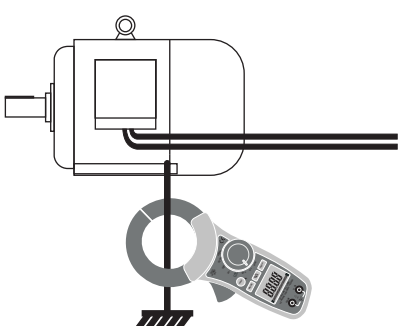
3.Operation Instructions

A. AC Leakage Current Measurements



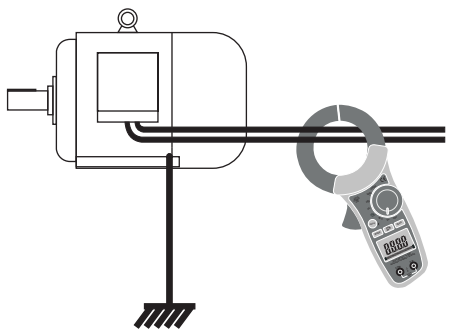
WARNING: Make sure that all the test leads are disconnected from the meter's terminals for current measurement.

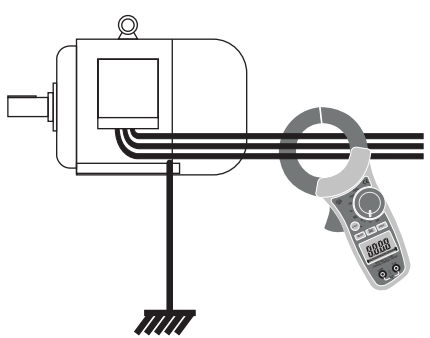
1. Leakage current Flowing into Ground conductor



- Set the rotary switch at desired range.
- Press the trigger to open the jaw and fully encloes the wire goes to the ground. Make sure the two half jaws are properly closed.
- Read the measured value from the LCD display.

2. Out of Balance Leakage current





- Set the rotary switch at desired range
- Press the trigger to open the jaw and fully enclose all two wires (single phase, two wires), three wires(three phases, three wires), or four wires(three phases, four wires).Make sure the two half jaws are properly closed.
- Read the measured value from the LCD display.

3. Using the 50/60Hz and wide Hz Selector

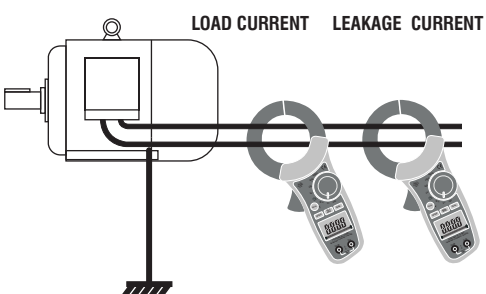
50/60 Hz Selector

This clamp meter has very good frequency response due to the electric property of the transformer jaws used. Therefore, the measurement result contains not only the fundamental frequency of 50/60Hz but also the high frequencies and harmonics superimposed on the fundamental frequency. To eliminate the effect of high frequency noise, a low pass filter is designed to filter out high frequency signal. To enable the filter, set the switch at the 50/60 position. The filter's cut-off frequency is set at 100Hz with an attenuation characteristic of approx. 24dB/octave.

Wide Hz Selector

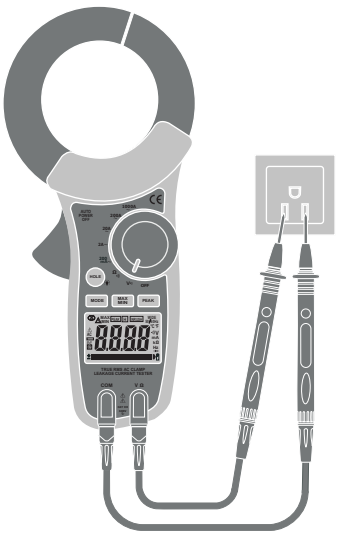
If the circuit under test is originated from a high frequency generating device such as inverter, switching regulators, etc., then the switch should be set at wide position to measure the signal which contains the frequency from 40Hz-1kHz. To make sure the presence of high frequency signal, set the switch at 50/60 and wide position to see the difference. If the reading is very different, it is certain that the high frequency signals or harmonics present.

B. AC Load Current Measurement



- Set the rotary switch at desired range.
- Press the trigger to open the jaw and fully enclose only one wire. No air gap is allowed between the two half jaws.
- Read the measured value from the LCD display.

C.AC/DC Voltage Measurements



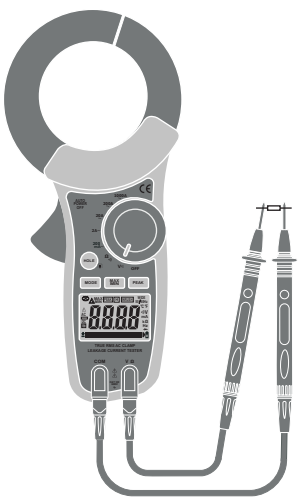
WARNING: Maximum input for DC V is 600,and for AC V is 600. Do not attempt to take any voltage measurement that exceeds the limits. Exceeding the limits could cause electrical shock and damage to the clamp meter.

- Set the rotary switch at 400V
- Insert the test leads into the input jack.
- Connect the test prods of the test leads in PARALLEL to the circuit to be measured.
- prees Mode button to selet ACV or DCV function.
- Read the measured value from the LCD display.

WARNING: Before taking any in-circuit resistance measurement,remove power from the circuit being tested and discharge all the capacitors.

D. Resistance and Continuity Measurement

- Set the rotary switch at Ω
- Insert the test leads into the input jack.
- Connect the test prods of the test leads to the two ends of the resistor or circuit
- be measured.
- Read the measured value from the LCD display.
- If the resistance is lower than 40Ω, a beeping sound shall be heard.



E. Peak Value Hold
The Peak Hold function captures the peak AC or DC voltage or AC current. The meter can capture negative or positive peaks as fast as 10 millisecond in duration.

F.Holding the LCD Reading
Press the HOLD button, then the reading shall be hold and kept on LCD.

G.Finding the MAX/MIN Value
Press the MAX/MIN button to enable the maximum and minimum values to be recorded and updated during measurement. Push the button once, the maximum value shall be displayed and updated. Push again (second push), the minimum value shall be displayed. Push again(third push), MAX/MIN function shall be disabled and return to the normal measurement mode.

H. Auto-Power-Off
The meter will turn itself off 30 minutes after power-on. To turn it on again.

4.Specifications

AC current:

		Accuracy	
Range	Resolution	50/60 Hz	Wide(40-1KHz)
200mA	100uA	±1.5%±6dgts	±3.0%±6dgts
2A	1mA	±2.0%±6dgts	±4.0%±6dgts
20A	10mA	±2.0%±6dgts	±4.0%±6dgts
200A1	100mA	±2.0%±6dgts	±3.0%±6dgts
1000A1	100mA	±3.0%±6dgts	±7.0%±6dgts

AC/DC Voltage(input impedance:10MΩ)

				Overload protection
Range	Resolution	50/60Hz	40-1KHz	
600V	0.1V	±1.5%±2dgts	±2.0%±4dgts	AC/DC 600V

Resistance (Ω) and continuity: (open voltage 0.4V)

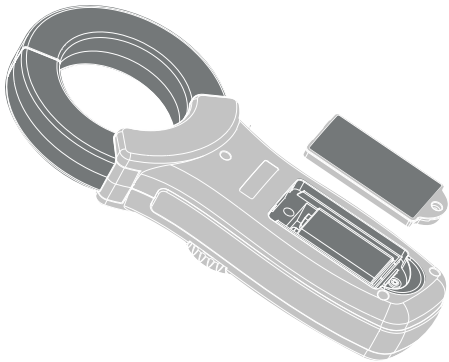
Range	Resolution	Accuracy	Beeping	OL Protection
0.4-400Ω	0.1Ω	±1.5%±4dgts	<38.0Ω	AC/DC 600V

Conductor size:	68mm max.(approx.)
Battery Type:	One 9V NEDA 1604
Display:	MAX.6000 counts LCD with 32seg. Bargraph
Range Selection:	manual
Overload indication:	left most digit blinks
Power Consumption:	10mA(approx.)
Low battery indication:	B
Sampling Time:	2 times/sec.(display) 20 times/sec.(bargraph)

Operating Temperature:	-10°C to 50°C
Operating Humidity:	less than 85% relative
Storage Temperature:	-20°C to 60°C
Storage Humidity:	less than 75% relative

Accessories:	Test leads×1 9V NEDA 1604×1 Users manual×1 Gift box with carrying case×1

5. Battery Replacement



When the low battery symbol is displayed on the LCD, replace the old batteries with two new batteries.

- Turn the power off and remove the test leads from the clamp meter
- Remove the screw of the battery compartment.
- Slide off the battery compartment.
- Remove the old batteries.
- Insert one 9V NEDA 1604 or G6F22 batteries.
- Replace the battery compartment and secure the screw.

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